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USPT	5589380.pn.	1	<u>L1</u>

**Anti-verocytotoxin (VT)1, VT2 and VT2c antibodies in commercial intravenous immune globulins in Japan.**

Morooka T; Umeda A; Winkler M; Karmali MA; Amako K; Oda T

Department of Pediatrics, Fukuoka University Chikushi Hospital, Japan.

Acta Paediatr Jpn (AUSTRALIA) Jun 1996, 38 (3) p294-5, ISSN 0374-5600

Journal Code: 1L3

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9612

Subfile: INDEX MEDICUS

Tags: Human

Descriptors: Antibodies--Analysis--AN; \*Bacterial Toxins--Immunology--IM;

\* **Hemolytic -Uremic Syndrome --Therapy --TH; \*Immunization , Passive ;**

Child; Enzyme-Linked Immunosorbent Assay; **Hemolytic -Uremic Syndrome**

--Immunology--IM; Japan

CAS Registry No.: 0 (Antibodies); 0 (Bacterial Toxins); 0

(Shiga-like toxin I); 0 (Shiga-like toxin II)

3/9/12

DIALOG(R) File 155:MEDLINE(R)

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08131907 95192527

**Transfusion medicine 1994.**

Pineda A; Korbiling M; Rock GA

Rev Invest Clin (MEXICO) Apr 1994, Suppl p101-15, ISSN 0034-8376

Journal Code: SCH

Languages: ENGLISH

Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL

JOURNAL ANNOUNCEMENT: 9506

Subfile: INDEX MEDICUS

(80 Refs.)

Tags: Human

Descriptors: \*Blood Transfusion; \*Hematopoietic Stem Cell Transplantation

; \*Plasmapheresis; Autoimmune Diseases--Therapy--TH; Blood Component

Removal--Methods--MT; Blood Component Transfusion--Trends--TD; Blood

Transfusion--Adverse Effects--AE; Blood Transfusion--Trends--TD;

Filtration; Gene Therapy--Methods--MT; Graft vs Host Disease--Etiology--ET;

Graft vs Host Disease--Prevention and Control--PC; Hematopoietic Stem Cell

Transplantation--Methods--MT; **Hemolytic -Uremic Syndrome --Therapy --TH;**

**Immune Complex Diseases--Therapy --TH; Immunosorbent Techniques;**

**Immunotherapy --Methods--MT; Leukocytes; Neoplasms--Therapy--TH;**

Plasmapheresis--Adverse Effects--AE; Purpura, Thrombocytopenic, Idiopathic

--Therapy--TH; Staphylococcal Protein A--Chemistry--CH; Virus Diseases

--Prevention and Control--PC; Virus Diseases--Transmission--TM

CAS Registry No.: 0 (Staphylococcal Protein A)

3/9/15

DIALOG(R) File 155:MEDLINE(R)

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07618061 93374491

**Differences in verotoxin neutralizing activity of therapeutic immunoglobulins and sera from healthy controls.**

Bitzan M; Klemm M; Steffens R; Muller-Wiefel DE

Universitäts-Kinderklinik, Hamburg, Germany.

Infection (GERMANY) May-Jun 1993, 21 (3) p140-5, ISSN 0300-8126

Journal Code: GO8

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9312

Subfile: INDEX MEDICUS

Intestinal infection by Escherichia coli O157 and other verotoxin (VT) producing E. coli has been increasingly recognized as an important factor for the causation of classic (enteropathic) **hemolytic uremic syndrome** (

**HUS** ) and hemorrhagic colitis (HC). Toxins most frequently involved are VT1 and VT2. As with other toxin-mediated diseases, administration of immunoglobulin (Ig) may be beneficial. However, little is known about the immune response elicited by the toxin(s), and the prevalence of VT neutralizing antibodies in the healthy population. We studied the capacity of seven Igs and a commercial plasma preparation to neutralize four different VTs (VT1, VT2, VT2c and VT2e). The results were compared with the neutralization titers (NT50%) of normal human serum samples from various age groups. Plasma products and normal sera were separated by protein G affinity chromatography to investigate the factor(s) responsible for VT neutralization. All Igs neutralized VT1 (8 to 96 NT50%). None of them inhibited VT2, VT2c or VT2e effectively. In contrast, none of 40 pediatric, and only one of 20 adult control sera (starting dilution 1:4) neutralized VT1 (25 NT50%). All 60 samples as well as the plasma preparation blocked VT2 (22 to 446 NT50%, median 137), but not VT2c and VT2e. The VT1 neutralizing activity was eluted with the IgG fraction. The VT2 neutralizing activity was not bound by protein G, but was recovered in the IgG-free effluent. In conclusion, therapeutic Igs significantly neutralize VT1, but are largely ineffective against other VTs. In contrast, all control sera inhibited VT2, but rarely VT1. (ABSTRACT TRUNCATED AT 250 WORDS)

Tags: Comparative Study; Human

Descriptors: \*Bacterial Toxins--Immunology--IM; \*Blood--Immunology--IM; \*Enterotoxins--Immunology--IM; \*Escherichia coli; \*Immunoglobulins--Immunology--IM; Adolescence; Adult; Aged; Bacterial Toxins--Chemistry--CH; Child; Child, Preschool; Chromatography, Affinity; IgG--Isolation and Purification--IP; Immunization, **Passive**; Infant; Middle Age; Nerve Tissue Proteins; Neutralization Tests; Plasma--Immunology--IM  
CAS Registry No.: 0 (Bacterial Toxins); 0 (Enterotoxins); 0 (G-substrate); 0 (IgG); 0 (Immunoglobulins); 0 (Nerve Tissue Proteins); 0 (Shiga-like toxin I); 0 (Shiga-like toxin II)

3/9/16

DIALOG(R) File 155:MEDLINE(R)

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07612866 93366444

**Virulence of enterohemorrhagic Escherichia coli O91:H21 clinical isolates in an orally infected mouse model.**

Lindgren SW; Melton AR; O'Brien AD

Department of Microbiology, Uniformed Services University of the Health Sciences, Bethesda, Maryland 20814-4799.

Infect Immun (UNITED STATES) Sep 1993, 61 (9) p3832-42, ISSN 0019-9567 Journal Code: GO7

Contract/Grant No.: AI 20148-10, AI, NIAID; T32-AI07308-05, AI, NIAID

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9312

Subfile: INDEX MEDICUS

Escherichia coli K-12 strains producing high levels of Shiga-like toxin type II (SLT-II) but not SLT-I were previously shown to be virulent in an orally infected, streptomycin-treated mouse model. In this investigation, we tested the virulence of several SLT-II-producing enterohemorrhagic E. coli (**EHEC**) isolates from patients with hemorrhagic colitis or **hemolytic uremic syndrome**. All of the strains tested were able to colonize the mouse intestine. However, only two strains were consistently virulent for mice: O91:H21 strain B2F1 (Strr), which was previously shown to carry two copies of slt-II-related toxins, and O91:H21 strain H414-36/89 (Strr), which was found in this study to contain three genes from the slt-II group. The oral 50% lethal doses of strains B2F1 (Strr) and H414-36/89 (Strr) when fed to streptomycin-treated mice were less than 10 bacteria. Histological sections from moribund mice fed the O91:H21 strains demonstrated extensive renal tubular necrosis; however, hematological results were not consistent with a diagnosis of **hemolytic uremic syndrome**. The central role of SLT in the virulence of the O91:H21 **EHEC** strains was supported by the finding that streptomycin-treated mice preinoculated with monoclonal antibody

specific for SLT-II survived oral challenge with either B<sub>1</sub> (Strr) or H414-36/89 (Strr). The basis for the variation in virulence among the SLT-II-producing **EHEC** strains tested was not determined. However, a correlation between the capacity of an **EHEC** strain to grow in small intestinal mucus and lethality in the streptomycin-treated mice was observed.

Tags: Animal; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: \*Bacterial Toxins--Toxicity--TO; \*Enterotoxins--Toxicity--TO; \*Escherichia coli--Pathogenicity--PY; \*Escherichia coli Infections--Microbiology--MI; Bacterial Toxins--Biosynthesis--BI; Bacterial Toxins--Genetics--GE; Escherichia coli--Growth and Development--GD; Escherichia coli--Genetics--GE; Escherichia coli Infections--Blood--BL; Escherichia coli Infections--Immunology--IM; Escherichia coli Infections--Pathology--PA; Immunization, **Passive** ; Lethal Dose 50; Mice; Mouth--Microbiology--MI; Virulence

CAS Registry No.: 0 (Bacterial Toxins); 0 (Enterotoxins); 0 (Shiga-like toxin II)

Gene Symbol: slt-II

3/9/22

DIALOG(R) File 155:MEDLINE(R)

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06998858 91329195

**The use of intravenous gammaglobulin in the treatment of typical hemolytic uremic syndrome.**

Robson WL; Fick GH; Jadavji T; Leung AK

Department of Pediatrics, University of Calgary, Alberta, Canada.

Pediatr Nephrol (GERMANY) May 1991, 5 (3) p289-92, ISSN 0931-041X

Journal Code: AVR

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9111

Subfile: INDEX MEDICUS

Nine children with acute typical post-diarrhea **hemolytic uremic syndrome** (**HUS**) were treated with intravenous gammaglobulin (IVIG). These children were compared to nine children with **HUS** who did not receive IVIG. The use of IVIG did not appear to have a beneficial effect on eight of the nine treated children. There were no significant differences found in the duration of hemorrhagic colitis, thrombocytopenia, elevation of the white blood count (WBC), anuria, dialysis, or hospitalization, or the presence of a central nervous system complication or pancreatitis. Although no significant difference was found in the duration of thrombocytopenia, there was a trend towards a longer duration of thrombocytopenia in children treated with IVIG ( $P = 0.13$ ). One child demonstrated both an increase in her platelet count and a decrease in her WBC count within 24 h of receiving her first dose of IVIG.

Tags: Comparative Study; Female; Human; Male

Descriptors: Gamma-Globulins--Administration and Dosage--AD; \***Hemolytic-Uremic Syndrome** --**Therapy** --TH; \***Immunization** , **Passive** ; Adolescence; Anuria; Child; Child, Preschool; Colitis--Therapy--TH; Infant; Infusions, Intravenous; Leukocyte Count; Prognosis; Thrombocytopenia--Therapy--TH

CAS Registry No.: 0 (Gamma-Globulins)

3/9/25

DIALOG(R) File 155:MEDLINE(R)

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05601827 89361926

**Immunologic therapy for hemolytic-uremic syndrome [letter; comment]**

Milford DV; Taylor CM; Rose PE; Roy TC; Rowe B

J Pediatr (UNITED STATES) Sep 1989, 115 (3) p502-4, ISSN 0022-3476

Journal Code: JLZ

Comment on J Pediatr 1988 Dec;113(6):1008-14

Languages: ENGLISH  
Document type: COMMENT; LETTER  
JOURNAL ANNOUNCEMENT: 8912  
Subfile: AIM; INDEX MEDICUS  
Tags: Human  
Descriptors: **Hemolytic -Uremic Syndrome --Therapy --TH; \*Immunization**  
**, Passive ; Child; Erythrocytes--Immunology--IM; Hemolytic -Uremic**  
**Syndrome --Etiology--ET; Risk Factors**  
?t s3/kwic/11 13-14 17-21 23 24 26-29

### 3/KWIC/11

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.

**Serodiagnosis by passive hemagglutination test and verotoxin enzyme-linked immunosorbent assay of toxin-producing Escherichia coli infections in patients with hemolytic-uremic syndrome.**

Eight cases of **hemolytic -uremic syndrome** in which no pathogens were isolated were diagnosed serologically by a **passive** hemagglutination assay and a verotoxin (VT; Shiga-like toxin) enzyme-linked immunosorbent assay (ELISA). The **passive** hemagglutination assay employed formalinized sheep erythrocytes sensitized with soluble native antigen or heat-treated antigen ...

... patients possessed VT 1 antibody. These results indicate that the causative pathogen in these eight **hemolytic -uremic syndrome** cases is likely to be VT-producing E. coli O157. The **passive** hemagglutination assay described here is a very sensitive, simple, and rapid method. This assay is...

... O157 strains. Furthermore, the VT-ELISA is useful in studying the role of VT in **hemolytic -uremic syndrome**.

Descriptors: Escherichia coli Infections--Diagnosis--DI; \*Hemagglutination Tests--Methods--MT; \***Hemolytic -Uremic Syndrome --Microbiology--MI...**; EP; Escherichia coli Infections--Microbiology--MI; Evaluation Studies; Hemagglutination Tests--Statistical and Numerical Data--SN; **Hemolytic -Uremic Syndrome --Epidemiology--EP; Japan--Epidemiology--EP; Sensitivity and Specificity; Serologic Tests; Sheep**

### 3/KWIC/13

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...acute gastritis, gastroenteritis, enteritis were observed; in cases of the severe course of AEI the **hemolytic** [correction of hemocolitic] **syndrome** was present. Immune shifts were characterized by T lymphopenia, a decrease in the number of...

; Acute Disease; Adolescence; Adult; Aged; Combined Modality **Therapy ; Immunity**, Cellular; Intestinal Diseases--Microbiology--MI; Klebsiella --Isolation and Purification--IP; Klebsiella Infections--Microbiology--MI; Middle...

### 3/KWIC/14

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.

**Clinical management of hemolytic -uremic syndrome and thrombotic-thrombocytopenic purpura]**

Klinisches Vorgehen bei hamolytisch-uramischem Syndrom und thrombotisch-thrombozytopenischer Purpura **HUS -TTP**).

BACKGROUND: According to recent research, the **hemolytic -uremic syndrome** (**HUS**) and thrombotic-thrombocytopenic purpura (**TTP**) are variable expressions of the same entity (**HUS -TTP**) with a common pathomechanism (endothelial cell damage, microthrombi) and common treatment (plasma infusion, plasmapheresis...)

...THE LITERATURE: Over an observation period of 15 years we considered the differential diagnosis of **HUS -TTP** in 34 patients, and treated 11 patients

with 12 clinical courses specifically with fresh...

...two due to the underlying disease (lupus erythematosus, mixed connective tissue disease). CONCLUSION: Treatment of **HUS** -TTP is started with fresh-frozen plasma infusions (1-1.5 liters/day), but plasmapheresis...

Descriptors: **Hemolytic** -Uremic **Syndrome** --Therapy--TH; \*Purpura, Thrombotic Thrombocytopenic--Therapy--TH; Adult; Combined Modality Therapy; Diagnosis, Differential; **Hemolytic** -Uremic **Syndrome** --Etiology--ET; **Hemolytic** -Uremic **Syndrome** --Mortality--MO; Immunization, **Passive** ; Middle Age; Plasma; Plasmapheresis; Purpura, Thrombotic Thrombocytopenic --Etiology--ET; Purpura, Thrombotic Thrombocytopenic--Mortality--MO; Retrospective...

3/KWIC/17

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... earlier studies using a streptomycin-treated mouse model of infection caused by enterohemorrhagic Escherichia coli (**EHEC**), animals fed Shiga-like toxin type II (SLT-II)-producing strains developed acute renal cortical...

...toxin-injected mice revealed that detectable damage was limited to renal cortical tubule epithelial cells. **Passive** administration of anti-SLT-II antibodies protected mice from SLT-II-mediated kidney damage and...

3/KWIC/18

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... to hospitalization. Among these 5, 3 of them also had fecal VT-producing E. coli (**VTEC**) serotype O157 : H7, whereas the other 2 did not. In the **passive** hemagglutination (PHA) test with formalinized sheep red blood cells sensitized with three **VTEC** O157 : H7 antigens, 49 (74.2%) of 66 outbreak patients and 3 of 3 sporadic...

...showed that serological assay particularly for antibodies against VT and unheated-antigen or LPS of **VTEC** O157 may provide a useful tool for diagnosis of infection with **VTEC** O157.

...; Microbiology--MI; Flagellin--Immunology--IM; Gastrointestinal Hemorrhage--Diagnosis--DI; Gastrointestinal Hemorrhage--Microbiology--MI; Hemagglutination Tests; **Hemolytic** -Uremic **Syndrome** --Diagnosis--DI; **Hemolytic** -Uremic **Syndrome** --Microbiology--MI; Latex Fixation Tests; Lipopolysaccharides--Immunology--IM

3/KWIC/19

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**Treatment of cancer chemotherapy-associated thrombotic thrombocytopenic purpura/ hemolytic uremic syndrome by protein A immunoadsorption of plasma.**

BACKGROUND. Chemotherapy-associated thrombotic thrombocytopenic purpura/ **hemolytic** uremic **syndrome** (C-TTP/ **HUS**) is a condition involving thrombocytopenia, microangiopathic hemolytic anemia, and progressive renal dysfunction that develops in...

... neoplasms were in complete or partial remission at the time of development of C-TTP/ **HUS** had a significantly higher estimated 1-year survival rate (74%) as compared with a historic...

... complement components C3c and C4. There were no side effects associated with 75% of treatments. **Immunoadsorption therapy** was associated with generally mild to moderate manageable side effects, such as fever, chills, nausea...

... establishes protein A immunoadsorption as an effective and safe

. treatment for cancer chemotherapy-associated TTP/HUS , an otherwise fatal disease.

Descriptors: Antineoplastic Agents--Adverse Effects--AE; \* **Hemolytic -Uremic Syndrome** --Therapy--TH; \*Immunosorbent Techniques; \*Purpura, Thrombotic Thrombocytopenic--Therapy--TH; \*Staphylococcal Protein A --Therapeutic Use--TU; Adult; Aged; Antigen-Antibody Complex--Isolation and Purification--IP; **Hemolytic -Uremic Syndrome** --Immunology--IM; **Hemolytic -Uremic Syndrome** --Mortality--MO; IgG --Isolation and Purification--IP; Middle Age; Neoplasms--Drug Therapy--DT; Purpura, Thrombotic...

3/KWIC/20

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... ongoing. More impressive have been the responses to protein A perfusion in immune thrombocytopenia and **hemolytic -uremic syndrome** . Using a protein A-silica device, Snyder et al. reported responses in 42% of immune...

... thrombocytopenia. Equally encouraging are reports of an overall 59% response rate in cancer chemotherapy-related **hemolytic -uremic syndrome** . Reported toxicities include fever, chills, hypotension, dyspnea and musculoskeletal pain. With rare exceptions, these reactions...

Descriptors: Autoimmune Diseases--Therapy--TH; \*Immunosorbent Techniques; \* **Immunotherapy** ; \*Neoplasms--Therapy--TH; \*Purpura, Thrombocytopenic, Idiopathic--Therapy--TH; \*Staphylococcal Protein A; Chromatography, Affinity; Fever--Chemically Induced--CI; **Hemolytic -Uremic Syndrome** --Chemically Induced--CI; **Hemolytic -Uremic Syndrome** --Therapy--TH; HIV Infections--Complications--CO; Immunoglobulins, Fc--Metabolism--ME; Immunosorbent Techniques--Adverse Effects--AE; **Immunotherapy** --Adverse Effects--AE; Neoplasms--Complications--CO; Perfusion; Purpura, Thrombocytopenic, Idiopathic--Complications--CO; Staphylococcal Protein A ...

3/KWIC/21

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.

... in 304 infants with diarrhoea in Mosul, Iraq by using standard biological assays and reversed **passive** latex agglutination (RPLA) procedures. Enterotoxigenic E. coli (ETEC) were found in 12.8% of the...

... ST) only and 4 (1.3%) produced both toxins (LT-ST)--whereas enteropathogenic E. coli (**EPEC** ) were responsible for about 13.8% of the incidence of diarrhoea in the community. Detailed...

3/KWIC/23

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.

**Anticytotoxin-neutralizing antibodies in immune globulin preparations: potential use in hemolytic-uremic syndrome [see comments]**

The pathogenesis of primary (classic) **hemolytic -uremic syndrome** (HUS ) is thought to be related to cytotoxin-producing enteric pathogens such as Shigella dysenteriae serotype 1 and Escherichia coli serotypes 0157 :H7 and 026:H11. The relevant cytotoxins include Shiga toxin and the closely related Shiga-like toxins (SLTs) produced by some E. coli strains. Intravenously administered **immune globulin (IVIG) therapy** has been reported to be beneficial in a few children with HUS . We therefore examined commercially available immune globulin preparations for the presence of anticytotoxin-neutralizing antibodies. Cytotoxicity and neutralization of the HUS -associated cytotoxins were quantitatively determined by means of a (3H)thymidine-labeled HeLa cell assay...

... related to the antibody content. We also examined sera from 30 children without diarrhea or HUS ; only one child had neutralizing titers against

• Shiga toxin (1:64) and SLT-I (1:1)...

... further investigation of the therapeutic role of these preparations in early treatment of children with **HUS** related to Shiga toxin and SLT-I.

Descriptors: Antibodies, Bacterial--Administration and Dosage--AD; \*Cytotoxins--Immunology--IM; \*Escherichia coli--Immunology--IM; \***Hemolytic -Uremic Syndrome** --Therapy --TH; \***Immunization , Passive** --Methods--MT; \*Neutralization Tests; \*Shigella dysenteriae--Immunology--IM...; Therapy --TH; Dysentery, Bacillary--Therapy--TH; Escherichia coli Infections --Therapy--TH; Hela Cells--Immunology--IM; **Hemolytic -Uremic Syndrome** --Immunology--IM; Infant

3/KWIC/24

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.

**Cisplatin-associated hemolytic-uremic syndrome. Successful treatment with a staphylococcal protein A column.**

Cisplatin-associated **hemolytic -uremic syndrome** (**HUS**), an under-reported form of **HUS** induced by chemotherapy, typically pursues a fulminant and lethal course. We report the cases of...

... dramatic and permanent response in the second patient. These cases show the importance of considering **HUS** as a cause of renal failure in such patients who receive cisplatin-based chemotherapy, and...

Descriptors: Antineoplastic Agents, Combined--Adverse Effects--AE; \*Cisplatin--Adverse Effects--AE; \***Hemolytic -Uremic Syndrome** --Chemically Induced--CI; \***Immune Complex Diseases--Therapy** --TH; \*Staphylococcal Protein A...; Dosage--AD; Head and Neck Neoplasms--Complications--CO; Head and Neck Neoplasms--Drug Therapy--DT; **Hemolytic -Uremic Syndrome** --Therapy --TH; **Immune Complex Diseases--Etiology--ET**; Laryngeal Neoplasms --Pathology--PA; Neoplasm Recurrence, Local--Drug Therapy--DT; Perfusion

3/KWIC/26

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...continues to grow with both the identification of new organisms, e.g., E. coli serotype **0157 :H7**, and the recognition that previously characterized microorganisms, e.g., M. avium-intracellulare, can also...

...; CO; Food Poisoning--Diagnosis--DI; Gastrointestinal Diseases --Diagnosis--DI; Gastrointestinal Diseases--Etiology--ET; Gastrointestinal Diseases--Therapy --TH; Homosexuality; **Immune Tolerance**; Parasitic Diseases--Diagnosis--DI; Parasitic Diseases--Therapy--TH; Travel; Virus Diseases--Diagnosis--DI; Virus...

3/KWIC/27

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...; Collagen Diseases--Complications--CO; Diabetic Nephropathies --Pathology--PA; Glomerulonephritis--Etiology--ET; Hematologic Diseases --Complications--CO; **Hemolytic -Uremic Syndrome** --Etiology--ET; **Hemolytic -Uremic Syndrome** --Therapy --TH; **Immune Complex Diseases** --Complications--CO; Infant; Kidney Glomerulus--Pathology--PA; Lupus Erythematosus, Systemic--Complications--CO; Lupus...

3/KWIC/28

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.

**Passive protection of lambs against experimental enteric colibacillosis by colostral transfer of antibodies from K99-vaccinated...**

... isolated from an enteropathogenic strain of Escherichia coli, strain B41 (O101:K99:NM), to induce **passive** immunity via the colostrum in their offspring against an oral challenge with heterologous "calf-lamb...



... to the virulence of "call-lamb" enteropathogenic strains that possess the K99 antigen. However, lambs **passively** immunised with colostrum from dams vaccinated with K99 antigen alone were protected against the production of enteric colibacillosis by oral challenge with **EPEC** strain B44.

...; Immunology--IM; Bacterial Vaccines--Immunology--IM; Diarrhea--Immunology--IM; Escherichia coli Infections--Immunology--IM; Immunization, **Passive** ; Pregnancy; Sheep; Vaccination

3/KWIC/29

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... challenge with antigen in complete Freund's adjuvant by a mechanism comparable to that of **passive** antibody-mediated immune suppression. It was shown that a small but high affinity. Tolerance was...

... which was shown to be comparable to the carrier specificity of antibody-mediated immune suppression. **hus**, evidence was presented to show that one mechanism of tolerance in adult animals in the...

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23mar00 08:42:04 User228206 Session D1154.3

\$1.37 0.429 DialUnits File155

\$1.20 6 Type(s) in Format 9

\$0.70 14 Type(s) in Format 95 (KWIC)

\$1.90 20 Types

\$3.27 Estimated cost File155

\$0.05 TYMNET

\$3.32 Estimated cost this search

\$3.32 Estimated total session cost 0.429 DialUnits

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S2	75529	PASSIVE? OR (IMMUN? (3N) THERAPY? OR IMMUNOTHERAP?)
S3	29	S1 AND S2
S4	288	"EHEC"
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S12	278	ATTACH? (3N) EFFAC?
S13	2304123	ANTI-INTIMIN? OR ANTIINTIMIN? OR (IMMUNE? OR IMMUNO? OR IGG OR SIGA OR IGM OR IMMUNOTHER? OR THERAP?)
S14	2136211	ANTI-INTIMIN? OR ANTIINTIMIN? OR (IMMUNE? OR IMMUNOG? OR I- GG OR SIGA OR IGM OR IMMUNOTHER? OR THERAP?)
S15	3	ANTI (N) INTIMIN?
S16	10	ANTIB? (5N) (INTIMIN? OR EAEA)
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S22	2533	EAE
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S24	3	S23 AND IVIG
S25	2	(ANTI (2N) EAEA) OR (ANTIBOD? (3N) EAEA?)
S26	36	INTIMIN?/TI
S27	26	EAEA/TI

?t s27/9/16 18

27/9/16

DIALOG(R) File 155:MEDLINE(R)

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08684141 96218760

**Prevalence of the eaeA gene in verotoxigenic Escherichia coli strains from dairy cattle in Southwest Ontario.**

Sandhu KS; Clarke RC; McFadden K; Brouwer A; Louie M; Wilson J; Lior H; Gyles CL

Ontario Veterinary College, University of Guelph, Canada.

Epidemiol Infect (ENGLAND) Feb 1996, 116 (1) p1-7, ISSN 0950-2688

Journal Code: EPI

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9608

Subfile: INDEX MEDICUS

This study determined the prevalence of the eaeA gene and its relationship to serotype and type of verotoxin produced in a collection of 432 verotoxigenic Escherichia coli (VTEC) obtained from the faeces of healthy cows and calves in a systematic random survey involving 80 dairy farms in Southwest Ontario. A PCR amplification procedure involving primer pairs which target the conserved central region of the O157:H7 eaeA gene showed that 151 (35.2%) strains were positive for the eaeA gene. All isolates (9-21 for each O group) of O groups 5, 26, 69, 84, 103, 111, 145 and 157 were positive, whereas all isolates (7-34 for each O group) of O groups 113, 132, and 153 and serotype O156:NM (38 isolates) were negative

for eaeA. Seventy-three percent of 130 isolates of eaeA-positive serotypes produced VT1 only compared with 20% of 253 isolates of eaeA-negative serotypes. We conclude that there is a strong association between certain O groups and the eaeA gene, that serotypes of eaeA-positive and eaeA-negative VTEC implicated in human and cattle disease are present at high frequency in the faeces of healthy cattle, that VT1 is more frequently associated with eaeA-positive than with eaeA-negative serogroups, and that the eaeA gene is more frequently found in VTEC from calves compared with VTEC from adult cattle.

Tags: Animal; Female; Support, Non-U.S. Gov't

Descriptors: \*Bacterial Toxins--Metabolism--ME; \*Cattle--Microbiology--MI; \*Escherichia coli--Genetics--GE; \*Genes, Bacterial; Base Sequence; Escherichia coli--Classification--CL; Escherichia coli--Isolation and Purification--IP; Escherichia coli--Metabolism--ME; Feces--Microbiology--MI; Molecular Sequence Data; Polymerase Chain Reaction

CAS Registry No.: 0 (Bacterial Toxins); 0 (Shiga-like toxin I)

27/9/18

DIALOG(R) File 155:MEDLINE(R)

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08386941 95369925

**The role of the eaeA gene in diarrhea and neurological complications in a gnotobiotic piglet model of enterohemorrhagic Escherichia coli infection.**

Tzipori S; Gunzer F; Donnenberg MS; de Montigny L; Kaper JB; Donohue-Rolfe A

Division of Infectious Diseases, Tufts University School of Veterinary Medicine, North Grafton, Massachusetts 01536, USA.

Infect Immun (UNITED STATES) Sep 1995, 63 (9) p3621-7, ISSN 0019-9567  
Journal Code: GO7

Contract/Grant No.: AI-20325, AI, NIAID; 1P30 DK39428, DK, NIDDK; AI-32074, AI, NIAID

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9511

Subfile: INDEX MEDICUS

We reported previously that mutation of the chromosomal gene eaeA from enterohemorrhagic Escherichia coli (EHEC) serotype O157:H7 prevented bacterial attachment in vivo. Attachment was restored when the EHEC or enteropathogenic E. coli (EPEC) eaeA gene was introduced into the mutant on a plasmid. In this communication we have compared in gnotobiotic piglets the pathogenicities of wild-type O157:H7 strain 86-24 and its eaeA mutant UMD619 with those of the two plasmid-complemented strains expressing IntiminO157 (EHEC) and IntiminO127 (EPEC). 86-24 colonized the surface and glandular epithelium of the large intestine and induced diarrhea, while UMD619 did not colonize any intestinal site and induced little or no diarrhea. Surprisingly, strain UMD619 expressing IntiminO127 behaved in pigs more like EPEC than EHEC strains; it colonized the distal half of the small intestine and the surface of the large intestine, inducing serious diarrhea. In contrast, strain UMD619 expressing IntiminO157 colonized the colon extremely poorly, inducing little or no diarrhea. While only the two strains causing extensive attachment--86-24 and UMD619 expressing IntiminO127--induced diarrhea, neurological symptoms attributed to Shiga-like toxin II occurred equally in all four groups of animals. The intimate bacterial attachment and mucosal damage were not a prerequisite for Shiga-like toxin II translocation from the gut lumen into the circulation. IntiminO127 appears not only to facilitate intimate attachment to cells but also to influence the site of intestinal colonization and other characteristics of EPEC infection.

Tags: Animal; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.

Descriptors: \*Bacterial Outer Membrane Proteins--Genetics--GE; \*Diarrhea--Etiology--ET; \*Escherichia coli--Genetics--GE; \*Escherichia coli Infections--Etiology--ET; \*Genes, Bacterial; \*Nervous System Diseases--Etiology--ET; Bacterial Adhesion; Bacterial Toxins--Toxicity--TO; Escherichia coli Infections--Pathology--PA; Germ-Free Life; Immunoblotting;

Swine

CAS Registry No.: 0 (Bacterial Outer Membrane Proteins); 0 (Bacterial  
Toxins); 0 (Shiga-like toxin II); 147094-99-3 (eae protein)

Gene Symbol: eaeA

?logoff hold

Set	Items	Description
S1	39779	PROTECT?/TI
S2	8434	INT OR INV OR IPAB OR IPAC OR IPA OR INVASIN? OR INTIMIN? -
		OR EAE OR EAEA
S3	224071	YERSINI? OR COLI? OR CITROBACTER? OR ALVEI?
S4	2	S1 AND S2 AND S3
S5	1	S4/1997:2000
S6	1	S4 NOT S5
S7	68	S1 AND S2 NOT S6 NOT S5
S8	1151	R1-R2
?s s8 (10n) monoclonal?		
	1151	S8
	143155	MONOCLONAL?
S9	229	S8 (10N) MONOCLONAL?
?s s9 (50n) (antagon? or block? or inhibit? or interfere?)		
	229	S9
	378756	ANTAGON?
	276205	BLOCK?
	824093	INHIBIT?
	123559	INTERFER?
S10	23	S9 (50N) (ANTAGON? OR BLOCK? OR INHIBIT? OR INTERFER?)
?t s10/kwic/all		

S33 4 S32 AND S22  
S34 4 RD (unique items)  
?t s34/9/2 3

5,798,260

ISSUED: August 25, 1998 (19980825)

INVENTOR(s): Tarr, Phillip I., Seattle, WA (Washington), US (United States of America)  
Bilge, Sima S., Bellevue, WA (Washington), US (United States of America)  
Besser, Thomas E., Moscow, ID (Idaho), US (United States of America)  
Vary, Jr. James C., Seattle, WA (Washington), US (United States of America)

ASSIGNEE(s): Children's Hospital and Medical Center, (A U.S. Company or Corporation), Seattle, WA (Washington), US (United States of America)  
University of Washington, (A U.S. Company or Corporation), Seattle, WA (Washington), US (United States of America)  
Washington State University Research Foundation, (A U.S. Company or Corporation), Pullman, WA (Washington), US (United States of America)  
[Assignee Code(s): 2937; 42673; 90675]

APPL. NO.: 8-765,081

FILED: March 26, 1997 (19970326)

PCT: PCT-US95-06994 (WO 95US6994)

Section 371 Date: March 26, 1996 (19960326)

Section 102(e) Date: March 26, 1996 (19960326)

Filing Date: June 07, 1995 (19950607)

Publication Number: WO96-00233 (WO 96233)

Publication Date: January 04, 1996 (19960104)

This application is the U.S. national stage application of International application Serial No. PCT-US95-06994, filed Jun. 7, 1995, which was a continuation-in-part of U.S. application Ser. No. 08-265,714, filed Jun. 24, 1994, now abandoned and claims the benefit of the filing dates thereof under 35 U.S.C. section 120.

FULL TEXT: 1787 lines

PATENT NO.: 5,759,551  
ISSUED: June 02, 1998 (19980602)  
INVENTOR(s): Ladd, Anna Efim, Brooklyn, NY (New York), US (United States of America)  
Wang, Chang Yi, Cold Spring Harbor, NY (New York), US (United States of America)  
Zamb, Timothy Joseph, Stony Brook, NY (New York), US (United States of America)  
ASSIGNEE(s): United Biomedical, Inc , (A U.S. Company or Corporation),  
Hauppauge, NY (New York), US (United States of America)  
[Assignee Code(s): 18063]  
APPL. NO.: 8-446,692  
FILED: December 26, 1995 (19951226)  
PCT: PCT-US94-04832 (WO 94US4832)  
Section 371 Date: December 26, 1995 (19951226)  
Section 102(e) Date: December 26, 1995 (19951226)  
Filing Date: April 28, 1994 (19940428)  
Publication Number: WO94-25060 (WO 9425060)  
Publication Date: November 10, 1994 (19941110)

This is a divisional application of application Ser. No. 08-488,351, filed Jun. 7, 1995; and is the national stage application of PCT-US94-04832, filed Apr. 27, 1994; which is in turn a continuation-in-part application of application Ser. No. 08-229,275, filed Apr. 14, 1994, now abandoned, which is in turn a continuation-in-part application of application Ser. No. 08-057,166, filed Apr. 27, 1993, now abandoned.

FULL TEXT: 5576 lines

#### OTHER REFERENCES

Leong et al. (1991) "Mapping and Topographic Localization of Epitopes of the Yersinia pseudotuberculosis **Invasin** Protein" Infection and Immunity 59(10):3424-3433.

Jayashankar et al. (1989) "Semisynthetic Anti-LHRH... Adhesion and Costimulation of Resting Human T Cells by the Bacterial beta 1 Integrin Ligand **Invasin** " J. Exp. Med. 177:207-212.

Partidos et al. (1990) "Prediction and Identification of a...Antibody Specific for HIV gp120" J. Immunol. 148:3970-3977.

Brett et al. (1993) "The **Invasin** Protein of Yersina spp. Provides Co-Stimulatory Activity to Human T Cells through Interaction with...

#### ABSTRACT

... cell epitope aids in stimulating the immune response against LHRH. The peptides, optionally contain an **invasin** domain which acts as a general immune stimulator. In another aspect this invention relates to immunogenic synthetic peptides having an **invasin** domain, a helper T cell epitope and a peptide hapten and methods of using these...

... sub h : LHRH (peptide 32). Peptide 32 consists of a segment of Yersenia adhesion molecule, **Invasin** , linked to

... cell epitope aids in stimulating the immune response against LHRH. The peptides, optionally, contain an **invasin** domain which acts as a general immune stimulator.

In another aspect this invention relates to immunogenic synthetic peptides having an **invasin** domain, a helper T cell epitope and a peptide hapten and methods of using these...that peptides containing particular structural arrangements of a Th epitope alone or linked to an **invasin** domain (as an immune enhancer) and LHRH (as immunogen) are effective in stimulating the production... testes, prostate and other androgen- or estrogen-dependent sex organs. Optionally, the peptides have an **invasin** domain as an immune stimulator.



ile 157:Aidsline(R) 1980-1999/Dec  
 (c) format only 1999 The Dialog Corporation  
 \*File 157: AIDSLINE will be reloaded. Accession Numbers will change.  
 File 159:Cancerlit 1975-2000/Mar  
 (c) format only 2000 Dialog Corporation  
 File 162:CAB HEALTH 1983-2000/Feb  
 (c) 2000 CAB INTERNATIONAL  
 File 164:Allied and Complementary Medicine 1984-1999/Jan  
 (c) 2000 BLHCIS  
 \*File 164: Please note that Sort temporarily does not work.  
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 (c) 1998 Inst for Sci Info  
 File 442:AMA Journals 1982-2000/Sep W3  
 (c)2000 Amer Med Assn -FARS/DARS apply  
 File 444:New England Journal of Med. 1985-2000/Feb W4  
 (c) 2000 Mass. Med. Soc.  
 File 457:The Lancet 1986-2000/Mar W2  
 (c) 2000 The Lancet, Ltd.  
 File 467:ExtraMED(tm) 1998/Jun  
 (c) 1999 Informania Ltd.

Set	Items	Description
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?ds

Set	Items	Description
S1	930	E3-E12
S2	716	E1-E34
S3	1087	E3-E31
S4	107521	R1-R7
S5	107521	R1-R4
S6	3	S1 AND IMMUNOTHERAP?
S7	3	S2 AND IMMUNOTHERAP?
S8	0	S7 NOT S6
S9	0	S3 AND IMMUNOTHERAP?
S10	434	S4 AND IMMUNOTHERAP?
S11	430	RD (unique items)
S12	0	S11 AND (INVASIN? OR EAEA OR INTIMIN?)
S13	0	S12/1997:2000
S14	559	S4 AND 94
S15	11	S14 AND (SIGA OR IGA OR IMMUNOTHERAP?)
S16	4799	E1-E24
S17	27882	"PASSIVE IMMUNIZATION" OR DC="E2.100.440" OR DC="E2.710.44-0" OR DC="E5.715.715.440"
S18	10	ANTIBODY TRANSFER
S19	45647	(ANTIBOD? (3N) TRANSFER) OR (IMMUNITY (3N)TRANSFER?) OR (-IMMUNITY (5N) MATERNALLY (5N)ACQUIRED) OR (IMMUNITY? (5N)PASSIVELY ACQUIRED) OR (IMMUNIZATION (5N) PASSIVE)
S20	31736	(IMMUNIZATION (5N) PASSIVE?) OR (PASSIVE (5N)IMMUNISATION?)
S21	30282	S16 OR S17 OR S18
S22	71247	S21 OR S19 OR S20
S23	5	S22 AND (S1 OR S2 OR S3)
S24	5	S23
S25	4	RD (unique items)
S26	3948	E3-E22
S27	8	S26 AND S22
S28	4906	EPEC OR EHEC
S29	25	S28 AND S22
S30	29	S27 OR S29
S31	19	RD (unique items)
S32	777	IPAB OR IPAC OR IPA(N)B OR IPA(N)C

**Antibody and cytokine responses in a mouse pulmonary model of *Shigella flexneri* serotype 2a infection**

Van de Verg L.L.; Mallett C.P.; Collins H.H.; Larsen T.; Hammack C.; Hale T.L.

Department of Bacterial Diseases, Walter Reed Army Inst. of  
Research, Washington, DC 20307 United States

Infection and Immunity ( INFECT. IMMUN. ) (United States) 1995, 63/5  
(1947-1954)

CODEN: INFIB ISSN: 0019-9567

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

A murine pulmonary model was used to study the mucosal immune response to *Shigella flexneri* serotype 2a infection. Inoculation of BALB/cJ mice with shigellae via the intranasal route resulted in bacterial invasion of bronchial and alveolar epithelia with concomitant development of acute suppurative bronchiolitis and subsequent development of lethal pneumonia. The pathology of pulmonary lesions resembled the colitis that characterizes shigellosis in humans and primates. Significant protection against a lethal dose of *S. flexneri* 2a was observed in mice previously infected with two sublethal doses of the homologous strain. Immunity against lethal challenge was associated with decreased bacterial invasion of the mucosal epithelium. Over the course of two sublethal challenges, which constituted primary and secondary immunizations, mice developed pulmonary and serum immunoglobulin G and A antibody recognizing both lipopolysaccharide and invasion plasmid antigens *IpaB* and *IpaC*. Immune mice and naive control mice differed in lung lavage cytokine levels following lethal challenge. Immune mice developed significantly elevated levels of pulmonary gamma interferon within 6 h of challenge, while naive control mice developed elevated levels of this cytokine later during the initial 24-h period. Both groups had elevated levels of gamma interferon during the 24- to 48-h period of infection. Both groups also had elevated levels of tumor necrosis factor alpha within 6 h of challenge, but the control mice had significantly higher levels at the 48- and 72-h time points. Elevated levels of interleukin-4 were observed only in immunized mice. This cytokine appeared within 24 h and receded between 48 and 72 h. Fluorescence-activated cell sorter analysis of lung parenchymal cells showed that both groups experienced an initial influx of monocytes, but the proportion of this cell type began to recede in immunized mice after 48 h of infection, while peak levels were maintained in the control animals. These studies suggest that elements of local B lymphocyte activity, as well as Thinf 1 and Thinf 2 lymphocyte activity, may contribute to the survival of immune mice after intranasal challenge with shigellae.

DRUG DESCRIPTORS:

**Myosin-cross-reactive epitope of *Shigella flexneri* invasion plasmid antigen B**

Oaks E.V.; Turbyfill K.R.

Enteric Infections Department, Walter Reed Army Inst. of Res., Washington,  
DC 20307 United States

Infection and Immunity ( INFECT. IMMUN. ) (United States) 1991, 60/2  
(557-564)

CODEN: INFIB ISSN: 0019-9567

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

**IpaB**, invasion plasmid antigen B, of *Shigella flexneri* is a 62-kDa protein required for invasion of intestinal epithelial cells. **IpaB** is also one of several major protein antigens recognized by the humoral immune systems of most humans and monkeys after infection with shigellae. Computer analysis of the deduced **IpaB** amino acid sequence indicates that an alpha-helical structure is likely through much of the molecule. Homology searches with protein data banks show that one alpha-helical domain between amino acid residues 95 and 181 has a moderate level of identity with myosin and streptococcal M protein. By using a monoclonal antibody (2F1) which recognizes an epitope in the amino-terminal third of the **IpaB** protein, it was possible to demonstrate a cross-reactive epitope(s) on skeletal muscle myosin. Epitope mapping localized the 2F1 epitope to three noncontiguous regions of the **IpaB** protein within the alpha-helical domain that contains homology with myosin. Antibodies produced in rabbits immunized with synthetic peptides from one of the 2F1 epitope regions (residues 99 to 110) of **IpaB** were capable of reacting with **IpaB** as well as myosin. Furthermore, sera from several monkeys previously infected with *S. flexneri* 2a contained antibodies to **IpaB** pep 101-116 (**IpaB** peptide 101-116) and also myosin. Sera from animals with antibodies against other **IpaB** peptides did not contain antibodies against myosin.

**Virulence of enterohemorrhagic Escherichia coli O91:H21 clinical isolates in an orally infected mouse model.**

Lindgren SW; Melton AR; O'Brien AD

Department of Microbiology, Uniformed Services University of the Health Sciences, Bethesda, Maryland 20814-4799.

Infect Immun (UNITED STATES) Sep 1993, 61 (9) p3832-42, ISSN 0019-9567 Journal Code: GO7

Contract/Grant No.: AI 20148-10, AI, NIAID; T32-AI07308-05, AI, NIAID

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9312

Subfile: INDEX MEDICUS

Escherichia coli K-12 strains producing high levels of Shiga-like toxin type II (SLT-II) but not SLT-I were previously shown to be virulent in an orally infected, streptomycin-treated mouse model. In this investigation, we tested the virulence of several SLT-II-producing enterohemorrhagic E. coli (**EHEC**) isolates from patients with hemorrhagic colitis or hemolytic uremic syndrome. All of the strains tested were able to colonize the mouse intestine. However, only two strains were consistently virulent for mice: O91:H21 strain B2F1 (Strr), which was previously shown to carry two copies of slt-II-related toxins, and O91:H21 strain H414-36/89 (Strr), which was found in this study to contain three genes from the slt-II group. The oral 50% lethal doses of strains B2F1 (Strr) and H414-36/89 (Strr) when fed to streptomycin-treated mice were less than 10 bacteria. Histological sections from moribund mice fed the O91:H21 strains demonstrated extensive renal tubular necrosis; however, hematological results were not consistent with a diagnosis of hemolytic uremic syndrome. The central role of SLT in the virulence of the O91:H21 **EHEC** strains was supported by the finding that streptomycin-treated mice preinoculated with monoclonal antibody specific for SLT-II survived oral challenge with either B2F1 (Strr) or H414-36/89 (Strr). The basis for the variation in virulence among the SLT-II-producing **EHEC** strains tested was not determined. However, a correlation between the capacity of an **EHEC** strain to grow in small intestinal mucus and lethality in the streptomycin-treated mice was observed.

Tags: Animal; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

**Passive protection of lambs against experimental enteric colibacillosis by colostral transfer of antibodies from K99-vaccinated ewes.**

Sojka WJ; Wray C; Morris JA

J Med Microbiol (ENGLAND) Nov 1978, 11 (4) p493-9, ISSN 0022-2615

Journal Code: J2N

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 7904

Subfile: INDEX MEDICUS

Pregnant ewes were vaccinated with partially purified, cell-free K99 antigen isolated from an enteropathogenic strain of *Escherichia coli*, strain B41 (O101:K99:NM), to induce passive immunity via the colostrum in their offspring against an oral challenge with heterologous "calf-lamb" enteropathogenic strains of *E. coli* B44. After sucking their dams, lambs were dosed orally with  $7 \times 10^{10}$  -  $2.2 \times 10^{11}$  organisms within 4--21 h of birth. One group of 10 lambs was dosed with cultures of the mucoid (O9:K30(A), K99:NM) form of strain B44 and another group of 10 lambs with the non-mucoid (O9:K99:NM) form; two groups of four control lambs from unvaccinated dams were similarly challenged. All four control lambs challenged with mucoid B44, loose faeces were detected in only two of the four control lambs and in none of the lambs from vaccinated dams. This suggests that the polysaccharide K antigen may contribute to the virulence of "calf-lamb" enteropathogenic strains that possess the K99 antigen. However, lambs passively immunised with colostrum from dams vaccinated with K99 antigen alone were protected against the production of enteric colibacillosis by oral challenge with **EPEC** strain B44.

**Production and characterization of a monoclonal antibody specific for enterohemorrhagic *Escherichia coli* of serotypes O157:H7 and O26:H11**

Padhye N.V.; Doyle M.P.

Dept. Food Microbiol./Toxicol, Food Research Institute, University of Wisconsin, Madison, WI 53706 United States

Journal of Clinical Microbiology ( J. CLIN. MICROBIOL. ) (United States) 1991, 29/1 (99-103)

CODEN: JCMID ISSN: 0095-1137

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

A monoclonal antibody (Mab 4E8C12) specific for *Escherichia coli* O157:H7 and O26:H11 was produced by immunizing BALB/c mice with a rough strain of *E. coli* O157:H7. The antibody reacted strongly by a direct enzyme-linked immunosorbent assay with each of 36 strains of *E. coli* O157:H7. No cross-reactivity was observed with strains of *Salmonella* spp., *Yersinia enterocolitica*, *Shigella dysenteriae*, *Proteus* spp., *Escherichia hermanii*, *Klebsiella pneumoniae*, *Campylobacter jejuni*, *Serratia marcescens*, *Citrobacter* spp., *Enterobacter cloacae*, *Hafnia alvei*, *Aeromonas hydrophila*, and all except five strains of *E. coli* other than serotype O157:H7 (including strains of serotype O157 but not H7). The *E. coli* strains (all of serotype O26:H11) that reacted with the antibody were enterohemorrhagic *E. coli* (EHEC) that were isolated from patients with hemolytic uremic syndrome or hemorrhagic colitis and produced verotoxin similar to that of *E. coli* O157:H7. Mab 4E8C12 belongs to the subclass immunoglobulin G2a and has a kappa light chain. Tricine-sodium dodecyl sulfate-polyacrylamide gel electrophoresis of outer membrane proteins of *E. coli* of different serotypes followed by Western immunoblot analysis revealed that Mab 4E8C12 reacted specifically with two proteins of EHEC strains of serotypes O157:H7 and O26:H11 with apparent molecular weights of 5,000 to 6,000. These proteins appeared to be markers specific for EHEC strains of serotypes O157:H7 and O26:H11. This MAb, because of its specificity, may be a useful reagent of an immunoassay for the rapid detection of these types of EHEC isolates in clinical and food specimens.

YERSINIA INV NUCLEIC ACIDS

[Bacterial nucleotide sequence which can transfer invasive ability to other cells]

PATENT NO.: 5,338,842

ISSUED: August 16, 1994 (19940816)

INVENTOR(s): Isberg, Ralph R., Brookline, MA (Massachusetts), US (United States of America)  
Miller, Virginia, Los Angeles, CA (California), US (United States of America)  
Falkow, Stanley, Portola Valley, CA (California), US (United States of America)

ASSIGNEE(s): The Board of Trustees of Leland Stanford Jr University, (A U.S. Company or Corporation), Stanford, CA (California), US (United States of America)  
[Assignee Code(s): 49136]

APPL. NO.: 7-890,317

FILED: May 22, 1992 (19920522)

PRIORITY: PCT-US90-02131, WO (World Intellectual Property Org), April 18, 1990 (19900418)

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of application Ser. No. 07-559,904, filed Jul. 30, 1990, abandoned, which is a continuation-in-part of application Ser. No. 07-340,375, filed Apr. 19, 1989 which is a continuation-in-part of application Ser. No. 06-761,222, filed Jul. 31, 1985, abandoned application Ser. No. 07-559,904 claims priority to International Application No. PCT-US90-02131 filed Apr. 18, 1990.

FULL TEXT: 1775 lines

OTHER REFERENCES

...pseudotuberculosis in HeLa cells", 1997-2007.

Cell, vol. 50 (Aug., 1987) 769-778, "Identification of **Invasin** : A Protein that allows enteric bacteria to Penetrate Cultured Mammalian Cells", Ralph R. Isberg et...

... Sciences USA, 85(18): 6682-6686, (Sep. 1988) Title: Cultured mamalian cells attach to the **invasin** protein of Yersinia pseudotuberculosis.

Formal et al., Infection and Immunity. 46(2): 465-469 (Nov...

...medium and used as appropriate.

The invasive microorganisms may be used to prepare antisera for **passive immunization** . Thus, gamma -globulin could be prepared which has antibodies to a broad spectrum of pathogens...

METHOD FOR DETERMINING VIRULENCE OF YERSINIA  
[Invasiveness]

PATENT NO.: 5,310,654  
ISSUED: May 10, 1994 (19940510)  
INVENTOR(s): Isberg, Ralph R., Brookline, MA (Massachusetts), US (United States of America)  
Miller, Virginia, Los Angeles, CA (California), US (United States of America)  
Falkow, Stanley, Portola Valley, CA (California), US (United States of America)  
ASSIGNEE(s): The Board of Trustees of the Leland Stanford Junior University  
, (A U.S. Company or Corporation ), Stanford, CA (California)  
, US (United States of America)  
[Assignee Code(s): 49136]  
APPL. NO.: 7-340,375  
FILED: April 19, 1989 (19890419)

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of U.S. application Ser. No. 761,222, filed Jul. 31, 1985, abandoned.

The development of this invention is funded at least in part by the Department of Defense under contract DAMD 17-82-C-2002 and by the NSF under NSF grant PCM 83-06654 and the Government may have rights in this invention. The development of the invention was also funded in part by the Jane Coffin Childs Memorial Fund.

FULL TEXT: 1146 lines

OTHER REFERENCES

...flexneri," in Infection and Immunity (1985) 49(1):164-171.

Isberg et al., "Identification of **Invasin** : A Protein that Allows Enteric Bacteria to Penetrate Cultured Mammalian Cells," in Cell (1987) 50...

... Nature 317:262-264 and Isberg et al., (1987) Cell 50:769-7778 describe the **invasin** locus of Yersinia pseudotuberculosis. Falkow et al., reviews of infectious diseases, 9 Supp. 5 S450...

... gene inv. Miller and Falkow, (1988) Inf. and Imm. 56:1242-1248 describe a second **invasin** gene named ail (for attachment invasion locus). Miller et al., Science 243:916-922 describes factors involved with virulence of bacterial pathogens. Finlay et al., Science 243:940-943 describe **invasin** gene of Salmonella.

SUMMARY OF THE INVENTION

Methods and compositions are provided for introducing macromolecules... Labelled antibodies could be introduced into the cells to define the location of particular antigens. **Invasin** proteins may be used to introduce particles, such as colloidal particles, liposomes, slowly degrading or...

...include drugs, dyes, nucleic acid, antibodies, or other substances which may have physiological activity. The **invasin** proteins may be bound non-diffusibly to the particles, either covalently or non-covalently. The ...

... proteins to other proteins, sugars, synthetic organic polymers, both addition and condensation, and the like.

**Invasin** proteins may also be used to bind mammalian cells to a surface. Thus in cell...medium and used as appropriate.



The invasive microorganisms may be used to prepare antisera for **passive immunization** . Thus, gamma -globulin could be prepared which has antibodies to a broad spectrum of pathogens...

of America)  
ASSIGNEE(s): University of Maryland at Baltimore, (A U.S. Company or  
Corporation), Baltimore, MD (Maryland), US (United States of  
America)  
[Assignee Code(s): 52744]  
APPL. NO.: 8-351,147  
FILED: November 30, 1994 (19941130)

#### CROSS-REFERENCE TO RELATED APPLICATIONS

This is a Continuation-in-part of U.S. patent application Ser. No. 08-160,317, filed Dec. 2, 1993, now U.S. Pat. No. 5,468,639, which in turn is a Continuation-in-part of U.S. patent application Ser. No. 07-894,774, filed Jun. 5, 1992, now abandoned.

FULL TEXT: 1624 lines

...495-497 (1975).

Monoclonal antibodies obtained using purified enterotoxins may be used to induce a **passive immunity** against Shigella enteric infection. Such antibodies will bind Shigella flexneri 2a enterotoxins, thus preventing these...

... the stimulation of water and electrolyte secretion. The total amount of antibodies used to induce **passive immunity** is generally about 10 mg to 10 g. The total amount of toxoid used to...CVD1203 and 2457T exhibited identical single bands on Western immunoblots with monoclonal antibodies to either **IpaB** (42 kDa) or to **IpaC** (62 kDa). Using anti-**IpaC** monoclonal antibody, dot immunoblots of serial dilutions of the two extracts containing equal amounts of protein demonstrated the same endpoints, indicating that both strains produced the same amount of **IpaC**.

While the invention has been described in detail, and with reference to specific embodiments

Another aspect of this invention provides a vaccine composition comprising... immunogenic synthetic peptide of about 30 to about 90 amino acids which contains an immunostimulatory **invasin** domain, a helper T cell (Th) epitope and a peptide hapten. These three elements of...  
...can exist simultaneously within a single T sub h epitope.

5. Covalent Addition of an **Invasin** Domain as an Adjuvant. The **invasins** of the pathogenic bacteria *Yersinia* spp. are outer membrane proteins which mediate entry of the **invasin** molecule and several species of the beta 1 family of integrins present on the cultured...

...rich in beta 1 integrins (especially activated immune or memory T cells) the effects of **invasin** upon human T cell have been investigated (Brett et al., 1993, Eur. J. Immunol. 23...

... interaction with extracellular matrix proteins including fibronectin, laminin and collagen. The carboxy-terminus of the **invasin** molecule was found to be costimulatory for naive human CD sup 4 +T cells in...

... non-specific mitogen, anti-CD3 antibody, causing marked proliferation and expression of cytokines. The specific **invasin** domain which interacts with the beta 1 integrins to cause this stimulation also was identified... associated with covalent modifications of the T sub h epitope: LHRH constructs (e.g the **invasin** domain and/or Pam sub 3 Cys), addition of exogenous adjuvant/emulsion formulations which maximize...an amino acid, alpha -NH sub 2, a tripalmitoyl cysteine group, a fatty acid, an **invasin** domain or an immunostimulatory analog of the corresponding **invasin** domain;

B is an amino acid;  
each Th is independently a sequence of amino acids...24 carbon atoms. The hydrocarbon chain can be saturated or unsaturated.

When A is an **invasin** domain it is an immunostimulatory epitope from the **invasin** protein of a *Yersinia* species. This **invasin** domain is also capable of interacting with the beta 1 integrin molecules present on T...

... under point 5 in the Detailed Description of the Invention. In a preferred embodiment the **invasin** domain has the sequence: Thr-Ala-Lys-Ser-Lys-Lys-Phe-Pro-Ser-Tyr-Thr...

...3

or is an immunostimulatory analog thereof from the corresponding region in another *Yersinia* species **invasin** protein. Such analogs thus have substitutions, deletions or insertions to accommodate strain to strain variation... In yet another embodiment, m is four and A is alpha -NH sub 2, an **invasin** domain, glycine and glycine in that order.

The amino acids for B can be the...population expressing diverse HLA phenotypes (as hereinbefore defined) and an adjuvant peptide sequence from the **invasin** protein of *Yersinia* which is capable of specifically binding to CD4 sup + and CD8 sup... genetically diverse population (e.g. as broad-based response as possible), synthetic peptides contain the **invasin** domain, a promiscuous Th epitope, and a B cell epitope (or a CTL epitope) can... excessive hormone production. Control of gastrin levels by anti-gastrin antibodies induced by either active **immunization** or **passive** administration of preformed antibodies is a logical approach for such gastrin-related disease intervention. Such...EXAMPLE 13

PATENT NO.: 5,686,580  
ISSUED: November 11, 1997 (19971111)  
INVENTOR(s): Fasano, Alessio, Ellicott City, MD (Maryland), US (United States of America)  
Levine, Myron M., Columbia, MD (Maryland), US (United States of America)  
Nataro, James P., Catonsville, MD (Maryland), US (United States of America)  
Noriega, Fernando, Columbia, MD (Maryland), US (United States of America)  
ASSIGNEE(s): University of Maryland at Baltimore, (A U.S. Company or Corporation), Baltimore, MD (Maryland), US (United States of America)  
[Assignee Code(s): 52744]  
APPL. NO.: 8-471,154  
FILED: June 06, 1995 (19950606)

#### CROSS REFERENCE TO RELATED APPLICATIONS

This is a Divisional Application of application Ser. No. 08-351,147, filed Nov. 30, 1994, now U.S. Pat. No. 5,589,380; which in turn is a Continuation-in-part of U.S. patent application Ser. No. 08-160,317, filed Dec. 2, 1993, now U.S. Pat. No. 5,468,699, which in turn is a Continuation-in-part of U.S. patent application Ser. No. 07-894,774, filed Jun. 5, 1992, now abandoned.

FULL TEXT: 1619 lines

...495-497 (1975).

Monoclonal antibodies obtained using purified enterotoxins may be used to induce a **passive immunity** against Shigella enteric infection. Such antibodies will bind Shigella flexneri 2a enterotoxins, thus preventing these...

... the stimulation of water and electrolyte secretion. The total amount of antibodies used to induce **passive immunity** is generally about 10 mg to 10 g. The total amount of toxoid used to...CVD1203 and 2457T exhibited identical single bands on Western immunoblots with monoclonal antibodies to either **IpaB** (42 kDa) or to **IpaC** (62 kDa). Using anti-**IpaC** monoclonal antibody, dot immunoblots of serial dilutions of the two extracts containing equal amounts of protein demonstrated the same endpoints, indicating that both strains produced the same amount of **IpaC**.

While the invention has been described in detail, and with reference to specific embodiments thereof...

6/3,KWIC/7 (Item 7 from file: 654)  
DIALOG(R)File 654:US Pat.Full.  
(c) format only 2000 The Dialog Corp. All rts. reserv.

02605669

Utility  
ISOLATED DNA MOLECULE ENCODING SHET1 OF SHIGELLA FLEXNERI 2A AND MUTANT SHIGELLA FLEXNERI 2A  
[Enterotoxins]

PATENT NO.: 5,589,380  
ISSUED: December 31, 1996 (19961231)  
INVENTOR(s): Fasano, Alessio, Ellicott City, MD (Maryland), US (United States of America)  
Levine, Myron M., Columbia, MD (Maryland), US (United States of America)  
Nataro, James P., Catonsville, MD (Maryland), US (United States of America)  
Noriega, Fernando, Columbia, MD (Maryland), US (United States of America)

**A pathogen-specific epitope inserted into recombinant secretory immunoglobulin A is immunogenic by the oral route.**

Corthesy B; Kaufmann M; Phalipon A; Peitsch M; Neutra MR; Kraehenbuhl JP  
Institut Suisse de Recherches Experimentales sur le Cancer et Institut de  
Biochimie, Chemin des Boveresses 155, CH-1066 Epalinges, Switzerland.  
blaise.corthesy@isrec.unil.ch

J Biol Chem (UNITED STATES) Dec 27 1996, 271 (52) p33670-7, ISSN  
0021-9258 Journal Code: HIV


Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9704

Subfile: INDEX MEDICUS

Oral administration of rabbit secretory IgA (sIgA) to adult BALB/c mice induced IgA+, IgM+, and IgG+ lymphoblasts in the Peyer's patches, whose fusion with myeloma cells resulted in hybridomas producing IgA, IgM, and IgG1 **antibodies** to the secretory component (SC). This suggests that SC could serve as a vector to target protective epitopes into mucosal lymphoid tissue and elicit an immune response. We tested this concept by inserting a *Shigella flexneri* **invasin** B epitope into SC, which, following reassociation with IgA, was delivered orally to mice. To identify potential insertion sites at the surface of SC, we constructed a molecular model of the first and second Ig-like domains of rabbit SC. A surface epitope recognized by an SC-specific **antibody** was mapped to the loop connecting the E and F beta strands of domain I. This 8-amino acid sequence was replaced by a 9-amino acid linear epitope from *S. flexneri* **invasin** B. We found that cellular trafficking of recombinant SC produced in mammalian CV-1 cells was drastically altered and resulted in a 50-fold lower rate of secretion. However, purification of chimeric SC could be achieved by Ni2+-chelate affinity chromatography. Both wild-type and chimeric SC bound to dimeric IgA, but not to monomeric IgA. Reconstituted sIgA carrying the **invasin** B epitope within the SC moiety triggers the appearance of seric and salivary **invasin** B-specific **antibodies**. Thus, neo-antigenized sIgA can serve as a mucosal vaccine delivery system inducing systemic and mucosal immune responses.



INHIBITION OF ENTEROPATHOGENIC ESCHERICHIA-COLI ADHESION TO  
HELA-CELLS BY SERUM OF INFANTS WITH DIARRHEA AND BY CORD SERUM

Author(s): BARROS HC; RAMOS SRTS; TRABULSI LR; SILVA MLM

Corporate Source: UNIV SAO PAULO, INST CIENCIAS BIOMED, DEPT IMUNOL, AV PROF  
LINEU PRESTES 2415/BR-05508900 SAO PAULO/SP/BRAZIL/; ESCOLA PAULISTA  
MED, DEPT MICROBIOL IMUNOL & PARASITOL/BR-04023062 SAO PAULO//BRAZIL/;  
UNIV SAO PAULO, FAC MED, INST CRIANCA PROF PEDRO DE ALCANTARA/BR-05403900  
SAO PAULO//BRAZIL/

Journal: BRAZILIAN JOURNAL OF MEDICAL AND BIOLOGICAL RESEARCH, 1995, V28,  
N1 (JAN), P83-87

ISSN: 0100-879X

Language: ENGLISH Document Type: ARTICLE

Geographic Location: BRAZIL

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences

Journal Subject Category: MEDICINE, RESEARCH & EXPERIMENTAL

Abstract: We have studied the effect of serum from infants with diarrhea  
and of cord serum on the localized adherence of enteropathogenic  
Escherichia coli (EPEC) to HeLa cells. Serum samples from 16 infants  
with diarrhea due to EPEC of serotypes O55:H6, O111:H-, O111:H2,  
O119:H6 and O142:H6 were used. The adherence ability of EPEC strains  
belonging to serotypes identical to (homologous) or different from  
(heterologous) those isolated from the infants' feces was highly  
inhibited by samples of infant serum collected both during the acute  
phase of the illness and upon discharge from the hospital. These data  
confirm the development of antibodies against EPEC adhesins and the  
cross-reaction between different EPEC serotypes. Cord serum inhibited  
the localized adherence of EPEC strains at different levels according  
to the serotype of the strain studied. These results suggest that the  
placental **transfer** of adhesin-related **antibodies** does not protect  
the newborn against EPEC infections, since half of our patients were  
less than 30 days old.

Descriptors--Author Keywords: BACTERIAL ADHESION INFANTILE DIARRHEA  
MICROBIOLOGY ; SERUM IMMUNOLOGY ; CORD SERUM ; ENTEROPATHOGENIC  
ESCHERICHIA COLI

Identifiers--KeyWords Plus: LOCALIZED ADHERENCE; HEP-2 CELLS; COLOSTRUM;  
MILK

Research Fronts: 93-3764 001 (VERO CYTOTOXIN-PRODUCING ESCHERICHIA-COLI  
O157 INFECTIONS; ROLE OF THE **EAE** GENE; INFANTILE DIARRHEA)

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- GIRON JA, 1991, V254, P710, SCIENCE
- GOMES TAT, 1991, V164, P331, J INFECT DIS
- JERSE AE, 1991, V59, P5302, INFECT IMMUN
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- MOON HW, 1983, V41, P1340, INFECT IMMUN
- NATARO JP, 1985, V48, P378, INFECT IMMUN
- SCALETSKY ICA, 1984, V45, P534, INFECT IMMUN
- SILVA MLM, 1992, V81, P266, ACTA PAEDIATR

?logoff hold

ORAL DOSAGE COMPOSITION FOR INTESTINAL DELIVERY AND METHOD USE OF THE SAME

COMPOSITION ADMINISTREE PAR VOIE ORALE ET DESTINEE A ETRE LIBEREE DANS L'INTESTIN ET SON PROCEDE D'UTILISATION

Patent Applicant/Assignee:

UNIVERSITY OF MARYLAND AT BALTIMORE

Inventor(s):

FASANO Alessio

Patent and Priority Information (Country, Number, Date):

Patent: WO 9637196 A1 19961128

Application: WO 96US6870 19960516 (PCT/WO US9606870)

Priority Application: US 95443864 19950524; US 96598852 19960209

Designated States: AL; AM; AT; AU; AZ; BB; BG; BR; BY; CA; CH; CN; CZ; DE; DK; EE; ES; FI; GB; GE; HU; IS; JP; KE; KR; KZ; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; TM; TR; TT; UA; UG; UZ; VN; KE; LS; MW; SD; SZ; UG; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM; AT; BE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; NE; TG

Publication Language: English

Fulltext Word Count: 15814

Fulltext Availability:

Detailed Description

Claims

Detailed Discription

... but not the MBP negative control.

Moreover, to confirm the production of appropriate anti-ZOT **antibodies**, neutralization experiments were conducted in Ussing chambers. When pre-incubated with pZ14 supernatant at 37°C for 60 min, the ZOT-specific **antiserum** (1:100 dilution), was able to completely neutralize the decrease in Rt induced by ZOT on rabbit ileum mounted in Ussing chambers.

EXAMPLE 7

Receptor for ZOT

MBP-**invasin** fusion protein of

*Yersinia pseudotuberculosis* is capable of binding to the integrin receptor of mammalian...

...confers the invasive phenotype on non-pathogenic *E. coli* harboring plasmids that produce the MBP-**invasin** fusion protein (Leong et al, The EMBO J., 9L61:1979-1989 (1990)). As a...described by Fasano et al, supra, and then incubated with gold-labelled anti-MBP monoclonal **antibodies** (Biolabs New England Lab) (1:25 dilution). Tissues exposed to the MBP-ZOT fusion protein...

...The cells were then fixed with cold methanol, and incubated with fluorescein-labelled anti-MBP **antibodies** (1:100 dilution).

When exposed to the MBP-ZOT fusion protein (at the various temperatures ...

...ZOT fusion protein, and then incubated with a 1:500 dilution of the anti-ZOT **antiserum**. Again, cells exposed to the MBP-ZOT fusion protein (at the same time intervals and...

...and experimental conditions tested above, and incubating the cell monolayers with fluorescein-labelled anti-ZOT **antiserum**.

To establish the regional distribution of the ZOT receptor within the intestine and along the...

Claim

... 8.

Claim 11. The oral dosage composition of

Claim 8, wherein said globulin is an **immunoglobulin** selected from the group consisting of polyvalent IgG, and specific IgG, IgA or IgM.

Claim...and interleukin-8.

Claim 26. The method of Claim 23, wherein said globulin is an **immunoglobulin** selected from the group consisting of polyvalent IgG, and specific IgG, IgA or Igm



**Shigella flexneri invasion plasmid antigens B and C: epitope location and characterization with monoclonal antibodies.**

Mills JA; Buysse JM; Oaks EV  
Department of Bacterial Immunology, Walter Reed Army Institute of Research, Washington, D.C. 20307.  
Infect Immun (UNITED STATES) Nov 1988, 56 (11) p2933-41, ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 8901

Subfile: INDEX MEDICUS

Invasion plasmid antigens B (IpaB) and C (IpaC) are associated with the ability of shigellae to invade cultured mammalian cells. Monoclonal antibodies against IpaB and IpaC polypeptides were produced and used in a whole-cell enzyme-linked immunosorbent assay to show that both **IpaB** and IpaC polypeptides were exposed on the surface of virulent shigellae. Moreover, these surface epitopes were shown to be highly conserved among different serotypes of *Shigella* spp. and enteroinvasive *Escherichia coli*. Cross-reactive epitopes were not found on noninvasive *Shigella* strains or on other enteric bacteria including *Salmonella*, *Yersinia*, *Campylobacter*, *Vibrio*, and *Aeromonas* spp. and various pathogenic strains of *E. coli*. The monoclonal **antibodies** were used in competitive binding assays to define three unique epitopes of the **IpaB** polypeptide and four unique epitopes of the IpaC polypeptide. Epitope locations and their corresponding DNA-encoding regions were defined by examining the **IpaB** and IpaC products expressed by lambda gt11 recombinants and by constructing a genetic map of the insert DNAs of these recombinants. Three **IpaB** epitopes (2F1, 1H4, 4C8) were found to be encoded on three contiguous DNA regions comprising a 700-base-pair (bp) segment that corresponded to the amino-terminal end of the **IpaB** polypeptide. Similarly, a 640-bp DNA segment that corresponded to the amino-terminal end of the IpaC polypeptide was found to encode three clustered IpaC epitopes (5H1, 9B6, 5B1). Approximately 50 bp downstream from this region a fourth IpaC epitope-encoding region (2G2) was found. The effect of the monoclonal **antibodies** on plaque formation by virulent *Shigella flexneri* on a monolayer of cultured mammalian cells (a sensitive measure of invasiveness) was determined. Only the **IpaB** -specific monoclonal **antibody** 2F1 was able to reduce the plaque-forming capacity by greater than 50%, suggesting that this epitope of the **IpaB** polypeptide is involved in the invasion process.

Descriptors: \*Antibodies, Monoclonal--Immunology--IM; \*Antigens, Bacterial--Immunology--IM; \**Shigella flexneri*--Immunology--IM; Antibodies, Bacterial--Immunology--IM; Antibody Specificity; Antigens, Bacterial --Genetics--GE; Bacterial Proteins--Genetics--GE; Bacterial Proteins --Immunology--IM; Blotting, Western; Cloning, Molecular; DNA, Recombinant; Epitopes; Plasmids; Restriction Mapping; *Shigella flexneri*--Pathogenicity --PY; Transcription, Genetic  
CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Antibodies, Monoclonal); 0 (Antigens, Bacterial); 0 (Bacterial Proteins)

Characterization of B-cell epitopes on IpaB, an invasion-associated antigen of *Shigella flexneri*: identification of an immunodominant domain recognized during natural infection.

Barzu S; Nato F; Rouyre S; Mazie JC; Sansonetti P; Phalipon A  
Unite de Pathogenie Microbienne Moleculaire, Institute Pasteur, Paris, France.

Infect Immun (UNITED STATES) Sep 1993, 61 (9) p3825-31, ISSN 0019-9567 Journal Code: GO7

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9312

Subfile: INDEX MEDICUS

The invasion plasmid antigen B (**IpaB**), a 62-kDa plasmid-encoded protein associated with the ability of shigellae to invade epithelial cells, is the bacterial antigen most strongly and consistently recognized by the host during infection. The strong systemic and mucosal immune responses observed against this **invasin** prompted us to map its B-cell epitopes. For this purpose, **IpaB** was first overexpressed in *Shigella flexneri* and used to raise rabbit polyclonal **antiserum** and murine monoclonal **antibodies**, which were subsequently used to screen a lambda gt11 **ipaB** library. Inserts of recombinant DNA clones that were specifically recognized by the **antisera** and **antibodies** were sequenced, and three distinct determinants were identified. Further characterization of these determinants showed that they were recognized by sera from patients convalescent from shigellosis, suggesting that they are relevant to the humoral response during natural infection. Moreover, the **IpaB** region comprising the three determinants was systematically recognized by all sera from infected patients that we tested, whereas other regions of the protein were not. These data suggest that this region, located between amino acid residues 147 and 258, is the major immunogenic domain of the **invasin** in the course of natural infection.

Tags: Animal; Female; Human; Male; Support, Non-U.S. Gov't

Descriptors: \*Antigens, Bacterial--Immunology--IM; \*B-Lymphocytes--Immunology--IM; \*Dysentery, Bacillary--Immunology--IM; \*Epitopes; \**Shigella flexneri*--Immunology--IM; Antibodies, Monoclonal--Immunology--IM; Base Sequence; Mice; Mice, Inbred BALB C; Molecular Sequence Data; Plasmids; Rabbits; *Shigella flexneri*--Pathogenicity--PY

CAS Registry No.: 0 (Antibodies, Monoclonal); 0 (Antigens, Bacterial); 0 (Epitopes); 0 (Plasmids)  
?logoff hold

Cleary TG; Hyani K; Winsor DK; Ruiz-Palacios G

Department of Pediatrics, University of Texas Medical School, Houston.

Adv Exp Med Biol (UNITED STATES) 1991, 310 p369-73, ISSN 0065-2598

Journal Code: 2LU

Languages: ENGLISH

Document type: JOURNAL ARTICLE

JOURNAL ANNOUNCEMENT: 9207

Subfile: INDEX MEDICUS

Tags: Comparative Study; Female; Human

Descriptors: **Antibodies**, Bacterial--Immunology--IM; \*Antigens,  
Bacterial--Immunology--IM; \*IgA, Secretory--Immunology--IM; \*Milk, Human  
--Immunology--IM; \*Shigella--Immunology--IM; Antigens, Bacterial--Genetics  
--GE; B-Lymphocytes--Immunology--IM; Bacterial Proteins--Genetics--GE;  
Bacterial Proteins--Immunology--IM; Cell Movement; Dysentery, Bacillary  
--Epidemiology--EP; Dysentery, Bacillary--Prevention and Control--PC;  
Mexico--Epidemiology--EP; Plasmids; Shigella--Genetics--GE; Shigella  
--Pathogenicity--PY; Texas--Epidemiology--EP; Virulence

CAS Registry No.: 0 (Antibodies, Bacterial); 0 (Antigens, Bacterial);  
0 (Bacterial Proteins); 0 (IgA, Secretory); 0 (Plasmids)

Gene Symbol: ipa; ipaA; **ipaB**; ipaC; ipaD; virB; inv; virF; virG; kcpA;  
mtl-arg; virR; his

**PROTEINES CHIMERIQUES**

Patent Applicant/Assignee:

CENTER FOR INNOVATIVE TECHNOLOGY

Inventor(s):

DERTZBAUGH Mark T

MACRINA Francis L

Patent and Priority Information (Country, Number, Date):

Patent: WO 9107979 A1 19910613

Application: WO 90US6811 19901128 (PCT/WO US9006811)

Priority Application: US 89442783 19891129

Designated States: AT; BE; CA; CH; DE; DK; ES; FR; GB; GR; IT; JP; LU; NL; SE

Publication Language: English

Fulltext Word Count: 15679

Fulltext Availability:

Detailed Description

Claims

Detailed Discription

... of the active site of GtfB, compared to the other enzymes, in which case the **antibody** affects its structure.

It will be apparent to those skilled in the art that various...monkeys. J. Dent. Res. 56:1586-1598.

Bergmeier, L. and Lehner, T. (1983) Lack of **antibodies** to human heart tissue in sera of rhesus monkeys immunized with Streptococcus mutans antigen&sect; and comparative study with rabbit **antisera** . Infect. Immun.,40:1075-1082.

Bessen, D. and Fischetti, V. (1988) Influence of intranasal immunization ...

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Crabbe, P., Nash, D., Bazin, H., Eyssen, H., and Heremans, J. (1969) **Antibodies** of the IgA type in intestinal plasma cells of germfree mice after oral or parenteral...J., Rodda, S., Mason, T., Alexander, H., Getzoff, E., and Lerner, R. (1987) Chemistry of **antibody** binding to a protein. Science 235:1184-1190. Ghrayeb, J., Kimura, H., Takahara, M., Hsiung...

Claim

... comprising administering orally to the subject a composition in a dosage sufficient to elicit an **antibody** response thereby raising **antibodies** in ...subunit of cholera toxin and an epitope region of the given peptide to which an **antibody** response is desired fused to the N-terminal end of the B subunit of cholera toxin, said epitope region being an antigenic determinant of the peptide to which an **antibody** response is desired, and a pharmaceutically acceptable carrier.

19. A recombinant-DNA mediated method for...

...portion of a B subunit of cholera toxin and an epitope capable of eliciting an **antibody** response in a patient, the DNA encoding said epitope being at the 51 end of...

?t s6/3,kwic/50

>>>KWIC option is not available in file(s): 42, 77